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STUDY OF ANNOYANCE DUE TO URBAN AUTOMOBILE TRAFFIC  
ANNEX 4 - A CATALOG OF THE CHARACTERISTICS OF NOISE  
AT DIFFERENT MEASURING POINTS

D. Aubree, S. Auzou and J.M. Rapin  
Centre Scientifique et Technique du Batiment,  
Paris, France

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STUDY OF ANNOYANCE DUE TO URBAN AUTOMOBILE TRAFFIC  
ANNEX 4 - A CATALOG OF THE CHARACTERISTICS OF NOISE  
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D. Aubree, S. Auzou and J. M. Rapin  
Centre Scientifique et Technique du Batiment,  
Paris, France

This catalog brings together the results of the cases studied /215\*  
and grouped in three series, one concerning the city of Paris, the  
second the suburbs of Paris, and the third the special studies. See  
Annex No. 3 for details concerning this nomenclature.

4.1. General Data

4.1.1. Summary of Characteristics

There are indications permitting determination of the mea-  
suring points and the results of research on the possible correlation  
among the three following variables taken two at a time.

- the mean level of acoustic pressure ( $L_{50}$ ) measured at the  
facade of the buildings.
- the mean quadratic deviation  $\sigma$  of the fluctuations during  
one hour, for the acoustic pressure level around the mean  
value  $L_{50}$ .
- the decimal logarithm of the hourly flow of traffic (Q).

This correlation work is expressed by regression line equa-  
tions and by the correlation indices of:

- $L_{50}$  as a fraction of  $\log Q$  represented by x.
- $\sigma$  as a fraction of  $\log Q$  represented by x.
- $L_{50}$  as a fraction of  $\sigma$  represented by y.

4.1.2. Syntheses

- For each of the following time periods:

/216

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\* Numbers in the margin indicate pagination in the foreign text.

- Total - entire 48 hours
- 6.07 - period from 0530 to 0730 hours
- 8.22 - period from 0730 to 2230 hours
- 23.24 - period from 2230 to 0030 hours
- 23.07 - period from 2230 to 0730 hours

the following four types of results are given:

- The levels of acoustic pressure that are reached or exceeded during 1%, 10%, 50% and 90% of the time, designated respectively as  $L_1$ ,  $L_{10}$ ,  $L_{50}$  and  $L_{90}$ , and the standard deviation .
- The mean quadratic value (ET) and the maximum value (EM) of the deviations between the experimental statistical values and the statistical values indicated by the line of regression (Henry line), connecting the momentary noise levels to the percentages of passing time.
- Three indices: the equivalent level ( $L_{eq}$ ), the mean level ( $L_{mn}$ ) and the Traffic Noise Index (TNI).
- The flow, in vehicles/hour, on the street itself,  $Q$ , or on a nearby street,  $Q'$ , when the noise on this street is not negligible in relation to that of the principal street. For the points at intersections (P 40 to P 43), the flow that is considered is the total flow.

The index S indicates that flow and noise level measurements were made simultaneously; the index m, that they were not made simultaneously. It is then a question of average flow.

For all details concerning these values, see Annex No. 3. /217

#### 4.2 Data Specifically for Paris

#### 4.2.1. Plans and Cross Sections

Plans and cross sections are given for the points numbered P 1 to P 43 (Paris).

- the dimensions are given in meters
- the scale of the plan is : 1/5000
- the scale of the cross sections is : 1/1250
- the elevations are taken from the middle of the roadway
- an arrow in the continuation of a street indicates that it is one way, traffic moving in the direction of the arrow
- an intersection shown with a circle around it indicates the presence of a traffic light
- when the street is drawn with a broken line, it means that this part is not described and is not to scale
- an asterisk indicates that the area has no buildings
- a dot next to the street indicates a measuring point, a sign indicated by a dash on the cross section

#### 4.2.2. Hourly Variations

The variations of acoustic pressure level are drawn on the graphs and expressed in dB (A). Each graph has four solid-line curves representing, from the top:

/218

- the first : the variations of  $L_{10}$
- the second : the variations of  $L_{50}$
- the third : the variations of  $L_{90}$
- the fourth : the variations of  $L_{10} - L_{90}$

This is in relation to the hour and for the 48 hours, save difficulties.

The dotted-line curve represents the hourly variation of automobile traffic, Q.

Under the graph there are line segments showing the period

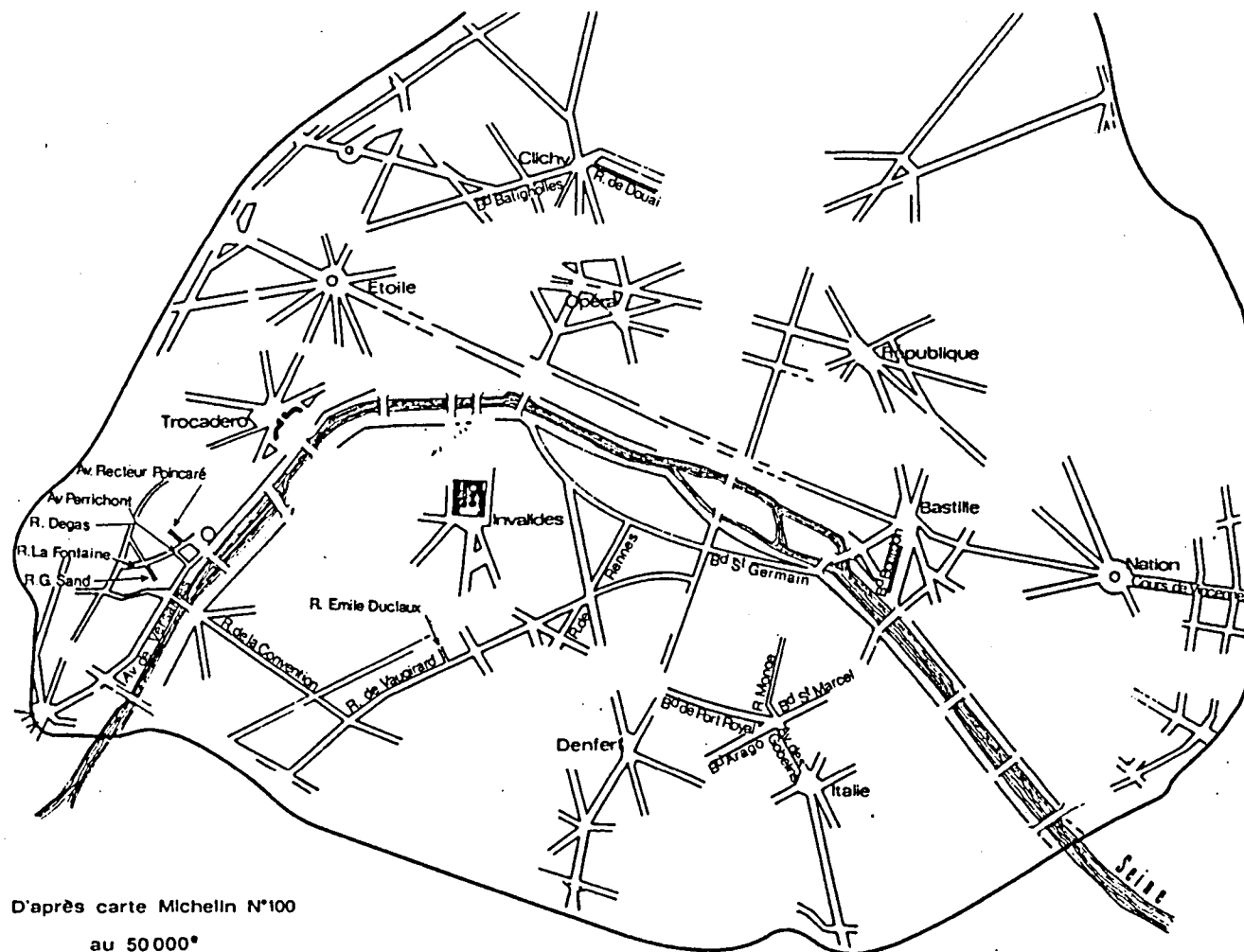
during which the measurements were taken. When something affecting the noise level occurs, the corresponding portions of the line segments are drawn with dots. If the occurrence concerns the amount of traffic, it is simply omitted for the period of disturbance.

CITY OF PARIS  
(see FIG. 51)

/219

- a) one-way streets  
P 1 to P 15
- b) two-way streets  
P 16 to P 35
- c) service areas  
P 36 to P 39
- d) intersections  
P 40 to P 43

Fig. 51



D'après carte Michelin N°100

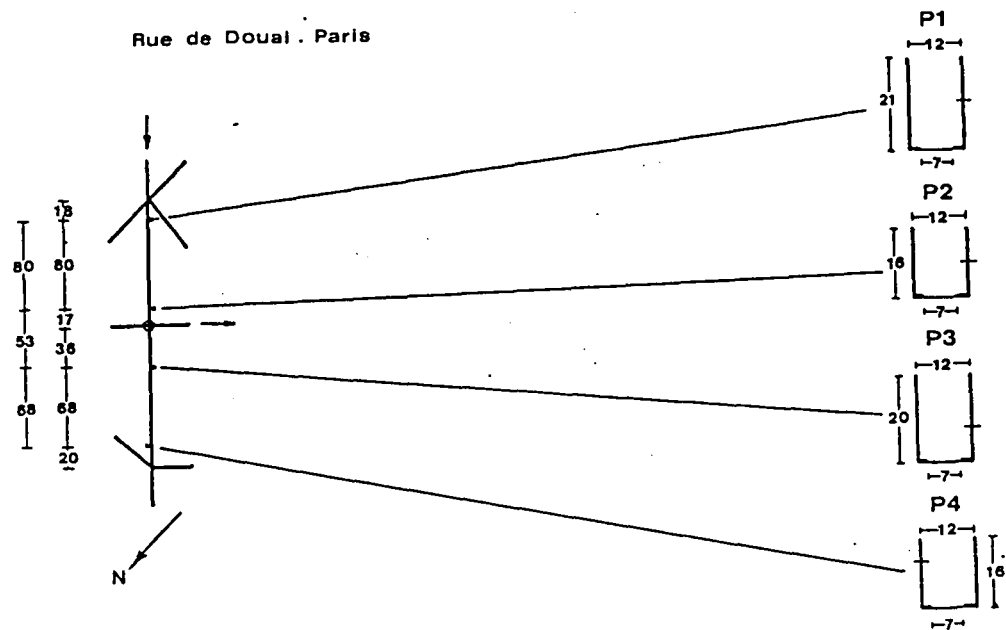
au 50 000<sup>e</sup>

According to Michelin Map No. 100

scale 1 : 50,000

Plan et coupes  
Plan and Cross Sections

P1.P2.P3.P4



# 1) Summary of Characteristics

7232

Type of street: one-way

Address: 25, rue de Douai - PARIS (9e)

Type of parking: parallel - blue zone

Bus line: yes Stop: yes

Traffic lights at: 75 m

Floor: 4th Elevation of the point in m: 11 m

Date of start of measurement: December 2, 1968

Regression line equations	$L_{50}/lgQ$ $1,7x$ $+36,1$	$\sigma/lgQ$ $-2,9x$ $+12,4$	$L_{50}/\sigma$ $-3,6x$ $+83,5$
Correlation indices	0,983	0,924	0,906

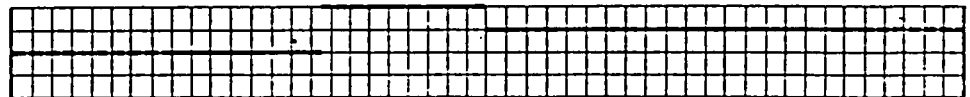
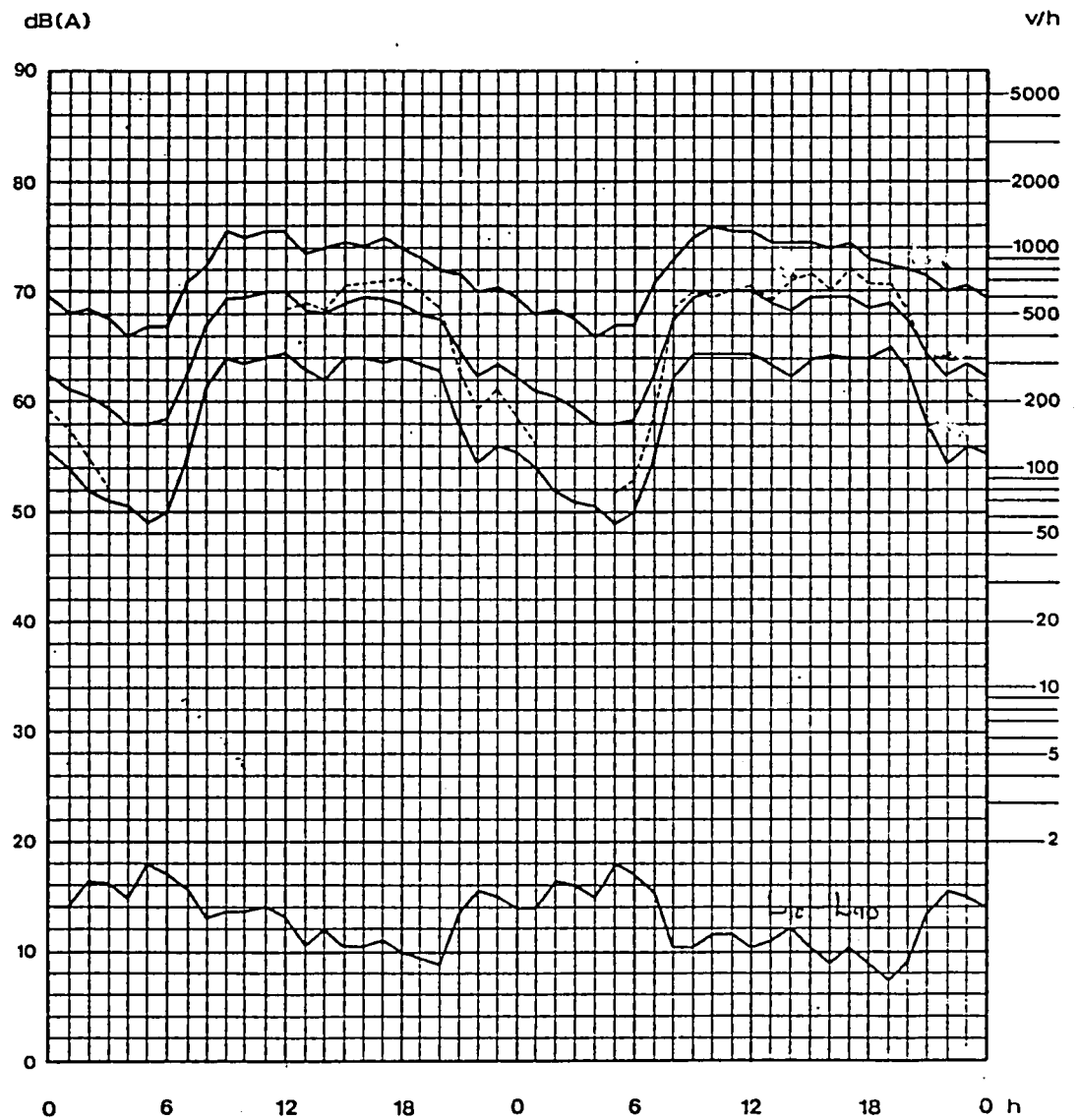
# 2) Syntheses

	Total	6.07 h	8.22 h	23.24 h	23.07 h
L 1%	81	77	79	76	76
L 10%	73	70	74	70	69
L 50%	65	60	68	63	60
L 90%	56	51	61	55	52
$\sigma$	6,8	7,2	5	5,8	6,6
ET	1	0,4	0,6	0,2	0,4
EM	1,5	0,6	0,9	0,3	0,6
L eq	69,9	66,7	71,5	67,4	66
L moy	69,8	66	70,5	66,5	65
TNI	84				
Q <sub>B</sub>	410	135	580	200	120
Q'					

3') Variations horaires des niveaux de bruit et du débit

P1

3) Hourly Variations of Noise and Flow Levels



(1)  
Lundi  
Mardi  
Mercredi  
Jeudi  
Vendredi  
(1)  
Monday  
Tuesday  
Wednesday  
Thursday  
Friday  
9

Variations in Acoustic Pressure Level  
Along the Facades

Note - The number of the point of measurement is given next to the number of each illustration.

US

France

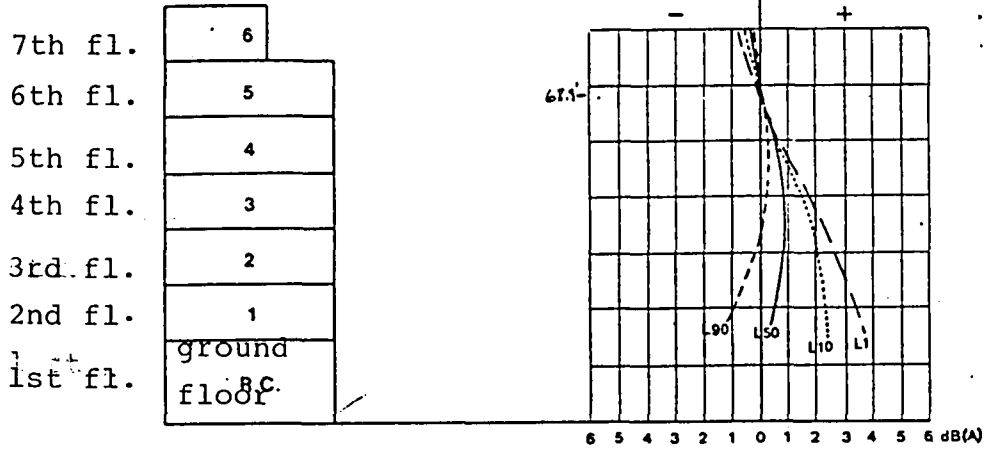


Fig. 54 - 4, avenue du Recteur Poincaré Paris 16ème

référence : niveaux au 5ème étage  
Reference: levels at 6th fl.

Boulevard Bourdon . Paris

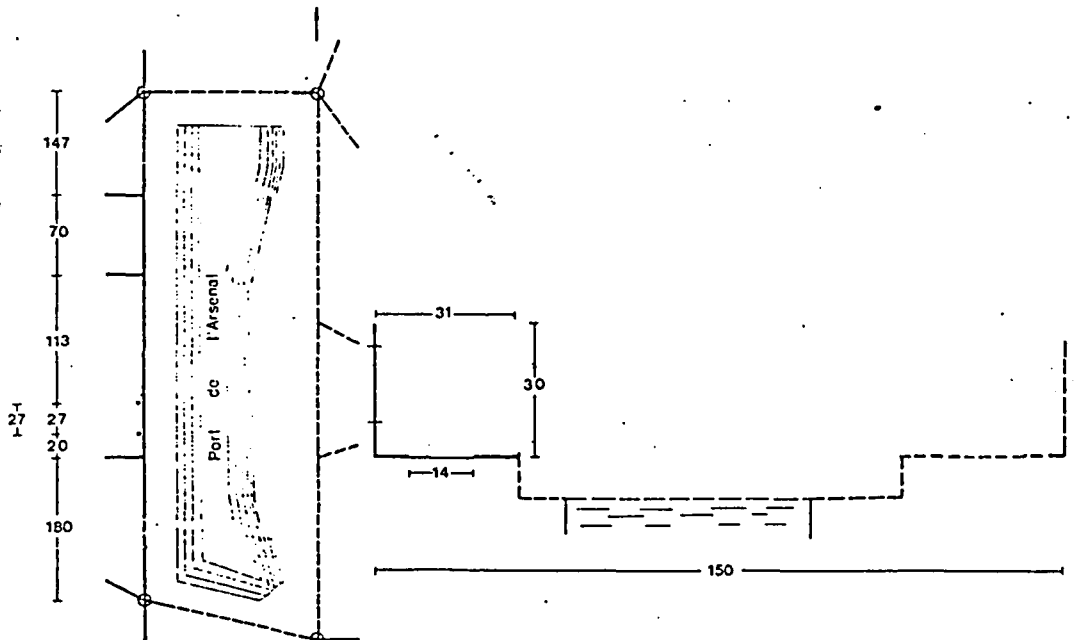


Fig. 55 - P14 et P15 - 23, Bd Bourdon Paris 4ème

référence : niveaux au 8ème étage

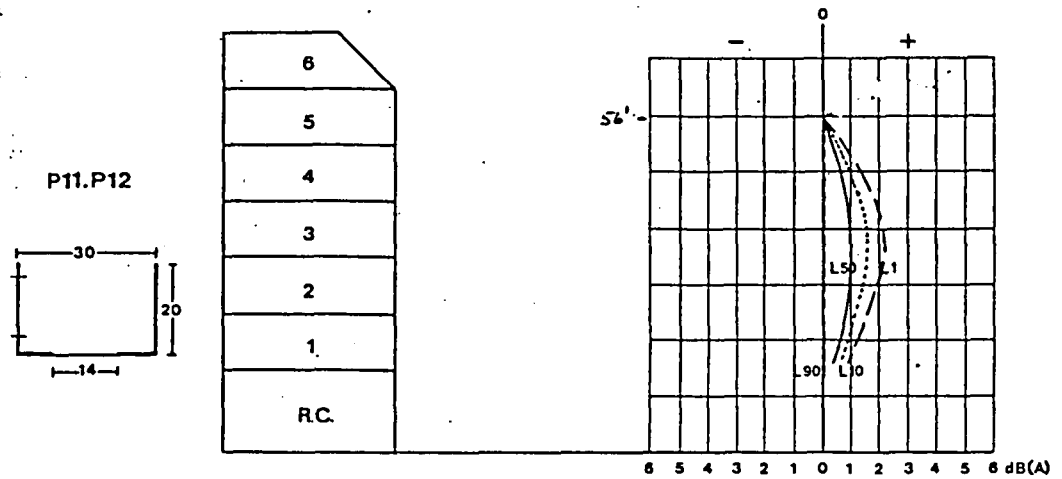


Fig. 56 - P11 et P12 - 42, Bd St-Germain Paris 5ème  
référence : niveaux au 5ème étage.

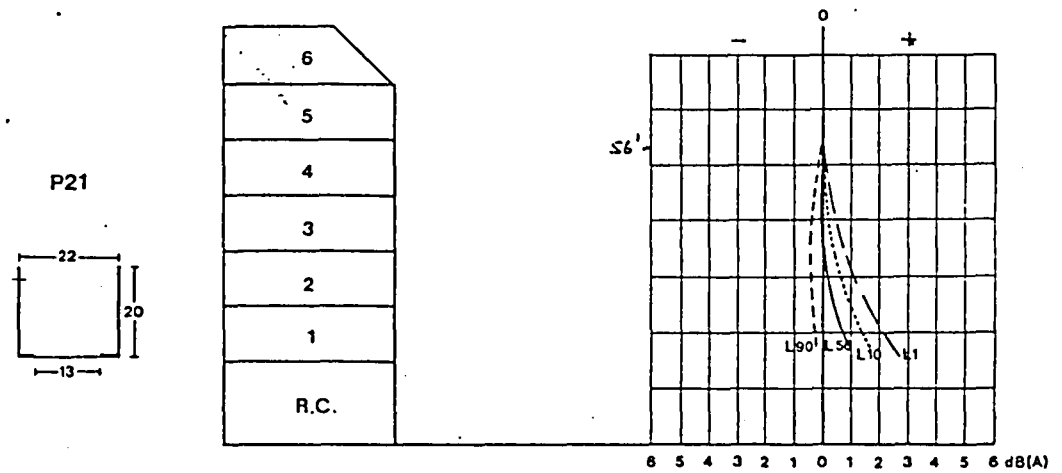


Fig. 57 - P 21 - 84, rue de Rennes Paris 6ème  
référence : niveaux au 5ème étage

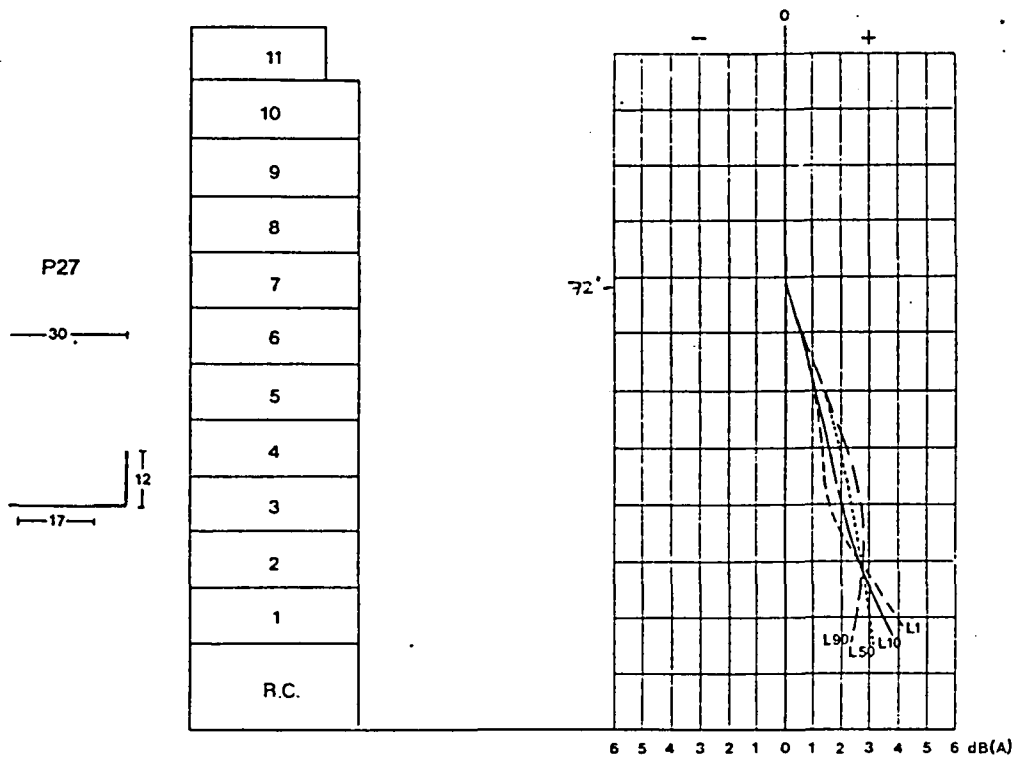


Fig. 58 - P 27 - 58, Avenue de Versailles Paris 16ème  
référence : niveaux au 7ème étage.

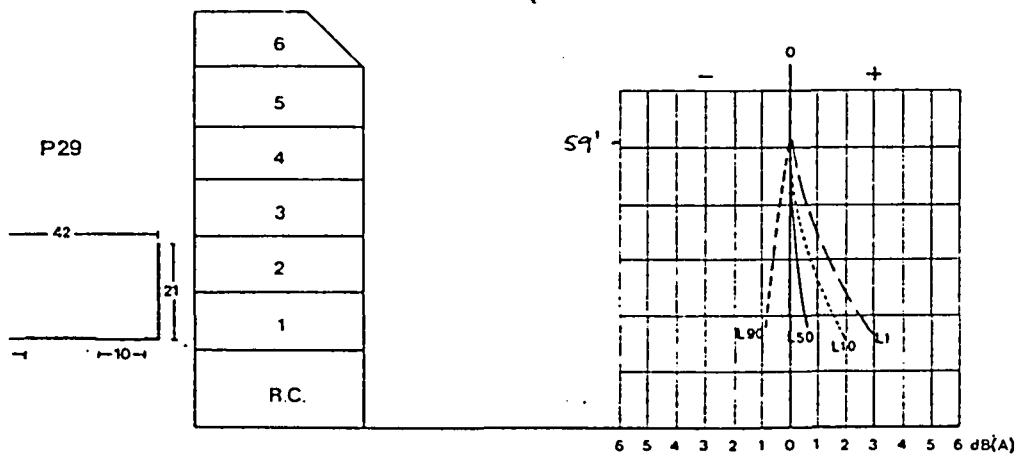


Fig. 59 - P 29 - 24, Bd des Batignolles Paris 17ème  
référence : niveaux au 5ème étage.

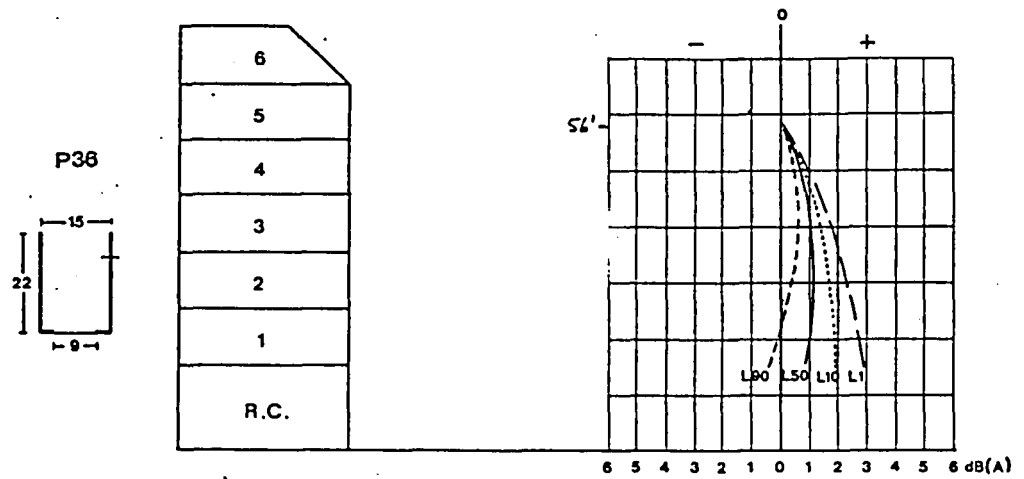


Fig. 60 - P36 - 5, rue Emile Duclaux Paris 15ème  
référence : niveaux au 5ème étage.

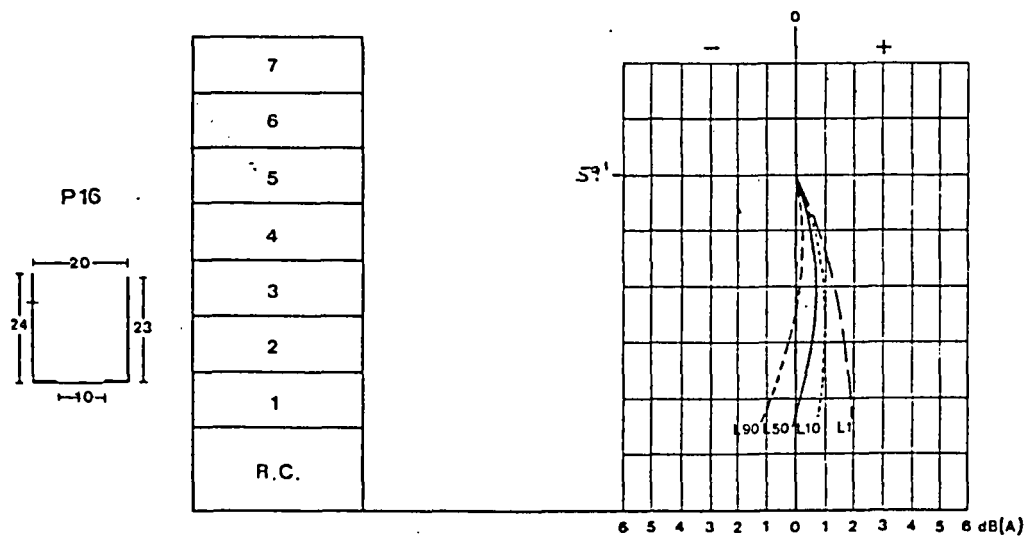


Fig. 61 - P16 - 7, Rond Point Mirabeau Paris 15ème  
référence : niveaux au 5ème étage.

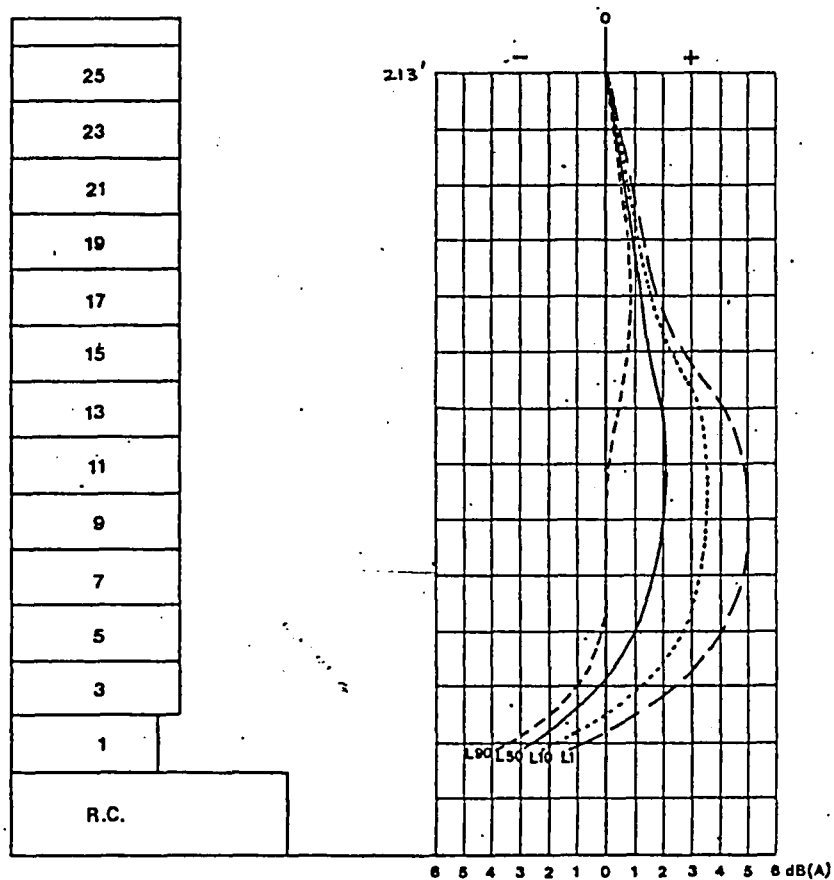


Fig. 62 - B43 et B44 - 23, Avenue du Général Leclerc  
93 - LA COURNEUVE  
référence : niveaux au 25ème étage.

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